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five different modes used for completing the syllabic characters, by the addition of letters, were briefly explained ; and it was then stated, that the old syllabic powers or names of the letters of the alphabet, were completed by the addition of another alphabetic character, representing the final sound in the syllable. This additional character is the expletive of the letter, and for it, as has been already noticed, an ideagraph, determining the pronunciation of the syllable, and thus equivalent to the first letter, may be obtained.

The reason why the practice of using expletives was retained, especially in foreign words, was the readiness with which some letters were confounded in the Hieratic texts. These letters had always different expletives, and a distinction was thus established between them, which would not exist if the expletives were omitted. The hieroglyphic texts in which expletives are chiefly found, were stated to be those which were copied from Hieratic, or, as they are called here, hieroglyphic originals.

Mr. Huband Smith read a paper descriptive of an ancient Wayside Cross, situate in the townland of Nevinstown, on the northern bank of the river Blackwater, about two miles from the town of Navan, in the county of Meath. One side bears an inscription ; the opposite has a shield, with armorial bearings, *party per pale*, nearly effaced. Beneath the dexter side are the initial letters M. C., and, under the sinister, M. D. The height of the shaft is at present three feet six inches above the slab, in which a socket is cut to receive the tenon upon the lower end of the shaft. This slab stands on a low grassy hillock, the remains, doubtless, of an ascent of three or four stone steps, which, when complete, the cross surmounted.

Mr. Smith exhibited to the Academy a "rubbing," taken from the shaft, which shewed the present state of the inscription on the front, the shield on the back, and an ornamental pattern on each of the sides. He also produced a restoration

of the entire, which shewed that the upper part of the shaft had been broken off, and with it the first line of the inscription. Of what remains the first line is illegible, but the rest is tolerably distinct. It is in the black-letter character of the sixteenth century, the letters being beautifully formed; and (filling up the contractions) it runs thus:

“ Armigeri, et *Margaretæ Dexter* uxoris ejus ac heredum eorum qui hanc crucem fecerunt anno Domini 1588 quorum animabus propicietur Deus, Amen.”

This inscription leaves little doubt that this memorial was one of the Wayside Crosses so generally erected by the piety of individuals about the sixteenth and the preceding centuries, but which the ill-directed zeal of a subsequent period so unsparingly mutilated, and often wholly destroyed. Upon inquiry it proved that a road, leading from Navan to Rathaldron Castle, long the residence of one of the principal branches of the ancient family of the Cusacks, once passed close in front of this cross.

The name of the husband of “Margaret Dexter” Mr. Smith soon after learned from a manuscript in the possession of Mr. Henry T. Cusack. This MS. is written in French, and entitled “An Historical Memoir and Genealogy of the ancient and illustrious House of Cusack, of the Kingdom of Ireland.” It appears to have been compiled by the Chevalier O’Gorman in the year 1767. It states that “Michael de Cusack, lord of Portrane and Rathaldron, married Margaret Dexter, who brought him, as a marriage portion, the castle, town, and lands of Rathaldron. He was ‘Greffier’ [a term which Boyer translates ‘Registrar,’ or Keeper of the Rolls] of Westmeath and of Louth in 1553, one of the Barons of the Exchequer in 1580, and died in 1589.” From this it may be safely concluded that the initials “M.C.,” upon the cross, are those of “Michael Cusack,” and that his was the name sculptured on the upper part of the cross, now lost.

In conclusion, Mr. Smith submitted that it would be desirable to have careful drawings, and, where practicable, rubbings also, made of all such existing monuments, in order that these most interesting memorials, which contain valuable confirmations of written documents, as well as curious illustrations of the manners and customs of bygone times, may be preserved from oblivion; and stated that he would be much gratified by receiving any communications on the subject, though they went no further than to state the existence of such crosses, in order to complete the materials for a general history of these Christian memorials, so deeply interesting, even in an historical point of view alone.

Rev. Charles Graves, F. T. C. D., read a Memoir, by Mr. George Boole, of Lincoln, on Discontinuous Functions.

The author deduces in succession three theorems for the expression of the discontinuous function, $f(x)$. The first theorem, which is free from signs of integration, implies that between the limits $x = a$, and $x = a + \Delta a$,

$$f(x) = \frac{1}{\pi} \left(\tan^{-1} \frac{a + \Delta a - x}{k} - \tan^{-1} \frac{a - x}{k} \right) f(x), \quad (1)$$

provided that we suppose k a positive quantity, and take the limit to which the second member approaches, as k approximates to 0. When $x = a$, or $a + \Delta a$, the first member of the above equation must be divided by 2; and when x transcends those limits, the first member is to be replaced by 0. From this formula, the author deduces his second theorem, involving one sign of integration, viz. :

$$f(x) = \frac{1}{\pi} \int_{-\infty}^{\infty} \frac{k da f(a)}{k^2 + (a - x)^2}, \quad (2)$$

in the second member of which the limits $-\infty$ and ∞ may be replaced by any other real limits, p and q , when all the values of x , for which $f(x)$ does not vanish, lie between the limits p and q . This theorem is subject to the same conditions,